

In the Claims

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38. (new) A system for controlling the distance between a vehicle axle and a vehicle comprising:

a sensor that senses a distance between the vehicle axle and the vehicle frame and generates a signal indicative thereof;

a housing including a wall that at least partially defines a chamber, said chamber including an inlet port, an operating port, and an exhaust port extending therethrough;

a movable plate with a side which is sealable against the wall by pressurized air supplied to the chamber;

a motor coupled to the plate for moving the plate, according to the signal, between a fill position in which the operating port is connected to the inlet port, and an exhaust position in which the operating port is connected to the exhaust port to selectively control the distance between the vehicle axle and the vehicle frame.

39. (new) The system according to claim 38 further comprising a neutral position in which the operating port is disconnected from both the inlet port and the exhaust port.

40. (new) The system according to claim 38 wherein the movable plate comprises a disk.

41. (new) The system according to claim 40 wherein the disk is rotatable.

42. (new) The system according to claim 41 wherein the operating port and the exhaust port are located on the wall.

43. (new) The system according to claim 42 wherein the rotatable disk that is sealable against the wall overlays the operating port and the exhaust port.

44. (new) The system according to claim 38 further comprising a controller receiving the signal and for controlling said motor.

45. (new) The system according to claim 44 wherein said controller comprises a control logic.

46. (new) The system according to claim 45 wherein the control logic is used in conjunction with the signal to operate the motor.
47. (new) The system according to claim 44 wherein said motor is reversible and said controller operates the motor in a first direction to move the movable plate into the fill position and in a second direction to move the movable plate into the exhaust position.
48. (new) The system according to claim 38 further comprising a gear that couples said motor to said movable plate.
49. (new) The system according to claim 48 wherein said gear is a worm gear.
50. (new) system according to claim 38 further comprising a feedback signal.
51. (new) The system according to claim 50 wherein the feedback signal is indicative of a position of said movable plate.
52. (new) The system according to claim 51 further comprising a controller having a control logic that operates said motor based upon the control logic and the feedback signal that is indicative of the position of said movable plate.
53. (new) The system according to claim 38 wherein the sensor comprises a transducer.
54. (new) system according to claim 53 wherein the transducer is circuit board mountable.

55. (new) system according to claim 53 wherein the transducer is selected from the group consisting of: an optical sensor, a hall effect sensor, a magnetic sensor, a variable resistance sensor, and combinations thereof.

56. (new) A system for controlling the distance between a vehicle axle and a vehicle comprising:

- a ride height sensor that senses a distance between the vehicle axle and the vehicle frame and generates a ride height signal indicative thereof;

- a position sensor for sensing a position of an anti-creep device and generates a position signal indicative thereof;

- a housing including a wall that at least partially defines a chamber, said chamber including an inlet port, an operating port, and an exhaust port extending therethrough;

- a movable plate with a side which is sealable against the wall by pressurized air supplied to the chamber;

- a controller receiving the position signal and the ride height signal, and controlling movement of the plate according to the signal between a fill position in which the operating port is connected to the inlet port, and an exhaust position in which the operating port is connected to the exhaust port to selectively control the distance between the vehicle axle and the vehicle frame.

57. (new) The system according to claim 56 further comprising a neutral position in which the operating port is disconnected from both the inlet port and the exhaust port.

58. (new) The system according to claim 56 wherein the movable plate comprises a disk.

- 59. (new) The system according to claim 58 wherein the disk is rotatable.
- 60. (new) The system according to claim 59 wherein the operating port and the exhaust port are located on the wall.
- 61. (new) The system according to claim 60 wherein the rotatable disk that is sealable against the wall overlays the operating port and the exhaust port.
- 62. (new) The system according to claim 56 further comprising a motor coupled to the plate and the controller for moving the plate according to the ride height signal.
- 63. (new) The system according to claim 62 further comprising a gear coupling said motor to said plate.
- 64. (new) The system according to claim 63 wherein said gear is a worm gear.
- 65. (new) The system according to claim 56 wherein said controller further controls said plate based upon the position signal.
- 66. (new) The system according to claim 56 wherein said controller sends a warning signal to a master vehicle controller when the position sensor senses that the anti-creep device is in a lowered position.
- 67. (new) The system according to claim 56 wherein said controller comprises a control logic.

68. (new) The system according to claim 67 wherein the control logic is used in conjunction with the sensor signal to control movement of the plate.
69. (new) The system according to claim 56 further comprising a feedback signal.
70. (new) The system according to claim 69 wherein the feedback signal is indicative of a position of said plate.
71. (new) The system according to claim 56 wherein said ride height sensor comprises a transducer.
72. (new) system according to claim 71 wherein the transducer is circuit board mountable.
73. (new) The system according to claim 72 wherein the transducer is selected from the group consisting of: optical encoder, hall effect sensor, a magnetostrictive, laser, ultrasonic, and combinations thereof.
74. (new) A system for controlling the distance between a vehicle axle and a vehicle comprising:
- a ride height sensor that senses a distance between the vehicle axle and the vehicle frame and generates a ride height signal indicative thereof;
 - a position sensor for sensing a position of an anti-creep device and generates a position signal indicative thereof;
 - a housing including a wall that at least partially defines a chamber, said chamber including an inlet port, an operating port, and an exhaust port extending therethrough;

a movable plate with a side which is sealable against the wall by pressurized air supplied to the chamber;

a motor coupled to the plate for moving the plate;

a controller receiving the position signal and the ride height signal, and controlling movement of the plate with said motor according to the ride height signal between a fill position in which the operating port is connected to the inlet port, and an exhaust position in which the operating port is connected to the exhaust port to selectively control the distance between the vehicle axle and the vehicle frame.

75. (new) The air suspension system according to claim 74 further comprising a feedback signal.

76. (new) The air suspension system according to claim 75 wherein the feedback signal is indicative of a position of said plate.